

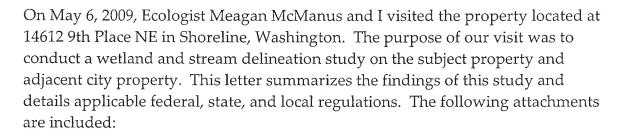
May 27, 2009

Anthony and Mary Konichek 14612 9th Place NE Shoreline, WA 98155

Re: Wetland and Stream Delineation Report

The Watershed Company Reference Number: 090501

Dear Anthony and Mary:



- Wetland Delineation Sketch
- Wetland Determination Data Forms

Methods

The study area was evaluated for wetlands using methodology from the Washington State Wetlands Identification and Delineation Manual (Manual) (Washington Department of Ecology [Ecology] 1997) and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Regional Supplement) (US Army Corps of Engineers [Corps] April 2008). Wetland boundaries were determined on the basis of an examination of vegetation, soils, and hydrology. Areas meeting the criteria set forth in the Manual and Regional Supplement were determined to be wetland. Soil, vegetation, and hydrologic parameters were sampled at several locations along the wetland boundaries to make the determination. Data points on-site are marked with yellow- and black-striped flags. We recorded data at two of these locations.

The ordinary high water mark (OHWM) of streams was determined based on the definition provided by the Washington Department of Fish and Wildlife and



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WAC 220-110-020(57). The OHWM is located by examining the bed and bank physical characteristics and vegetation to ascertain the water elevation for mean annual floods. The OHWM was marked with blue- and white-striped flags. Only the encumbering sides of streams were flagged. Field observations and published information were used to classify streams.

Delineated wetlands and streams were classified using Chapter 20 of the *Shoreline Municipal Code* (SMC).

Findings

The property contains an existing single-family residence with associated patio, driveway, and landscaped lawn. There are two streams, Littles Creek and Stream B (see below), on-site and one wetland, Wetland A (see below), northeast of the subject property. The non-wetland, non-riparian vegetation consists primarily of lawn grasses and ornamental plantings. The surrounding landscape use is residential.

Wetland A

Wetland A is a riverine wetland associated with Littles Creek. All of Wetland A is located off-site, northeast of the subject property and only the potentially encumbering portion of the boundary was delineated and flagged for this study. Wetland A extends northward along the western side of Paramount Open Space. The primary sources of hydrology are overbank flooding associated with Littles Creek and a high groundwater table. There was saturation at the soil surface and a water table present 12 inches below the soil surface at the time of our visit. Soils sampled within Wetland A are a black (10YR 2/1) loam with a high organic content. Wetland A contains a forested vegetation class. While the entire wetland unit contains a dense understory of scrub-shrub and emergent vegetation, the understory in the delineated portions of Wetland A is mostly emergent. Dominant vegetation includes red alder, Himalayan blackberry, giant horsetail, creeping buttercup, and bittersweet nightshade.

Littles Creek

Littles Creek is a permanently flowing, non-fish bearing stream that originates as a piped system near NE 175th Street and 10th Avenue NE and eventually connects with Thornton Creek, which discharges into Lake Washington. Littles Creek contains no documented fish populations due to a more than 1,600-foot long culvert located at NE 133rd Street and 15th Avenue NE. The length and

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flow velocity associated with the culvert acts as a fish passage barrier (City of Shoreline, *Thornton Creek Watershed Plan* - Draft, 2008). Littles Creek enters the subject property from the east through a three-foot wide concrete box culvert, then turns south and exits the property in the southeast corner of the parcel. The on-site portion of Littles Creek contains a gravelly, cobbley substrate and has been stabilized with riprap along the stream edges. The average width on-site is approximately eight feet, and the depth ranged between six inches and one foot at the time of our visit. There are two wooden footbridge crossings over the stream, one where the stream enters the property and one just before it exits the property. The primary riparian vegetation consists of red alder, sword fern, ornamental plantings, and lawn grasses that are present to the stream edge.

Stream B

Stream B is a small, seasonal, non-fish bearing stream that connects with Littles Creek near the northern boundary of the subject property. The seasonal determination was made based on the very low stream flow and poorly defined banks observed during our visit. Stream B originates from a one-foot wide, corrugated metal culvert off-site to the north of the subject property. The stream enters another one-foot wide, corrugated metal culvert just before entering the subject property and leaves the culvert at the point where it connects to Littles Creek. Stream B averages approximately three feet in width, has a muddy, unconsolidated substrate, and was very shallow (less than six inches deep) at the time of our visit.

Local Regulations

Wetlands in Shoreline are regulated under SMC20.80. Under the code, wetlands are rated as one of four types based on size, composition, habitat, and connectivity. Since Wetland A contains only one wetland class, is not listed on the Washington Natural Heritage Plan, and does not contain plant associations of infrequent occurrence, it is not considered a Type I wetland. Wetlands that are not Type I, are greater than one-half acre in size, and contain a forested wetland class are rated as Type II. Based on this criteria Wetland A is rated as Type II. Type II wetlands are required to have a standard buffer width of 115 feet.

Wetland buffer widths may be reduced to a minimum of 75 feet through buffer reduction with enhancement. Reduced buffers must provide for equal or greater wetland functions and can be achieved through the installation of a native plant

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community and habitat features such as standing snags, large woody debris, and nesting structures [SMC 20.80.330(B)].

Buffer averaging may be applied provided the structure and function of the averaged buffer is equal or greater than the standard buffer, the total area of the buffer is not reduced, and no portion of the buffer is reduced beyond 25 percent or less than the minimum buffer (75 feet). Additionally, a habitat survey shall be required that identifies and prioritizes highly functioning habitat areas [SMC 20.80.330(F)].

Streams in Shoreline are regulated under SMC 20.80. Under the code, streams are rated as one of four types based on inventory status as "Shorelines of the State", salmonid use and habitat, and channel width. Littles Creek and Stream B have a demonstrated fish passage barrier downstream and have channel widths greater than two feet. According to the code, streams that have "salmonid fish use" are defined as passable or potentially passable by salmonid populations, or streams that are planned for restoration in a six-year capital improvement plan, which will result in a fish passable connection. There are currently no plans to remove the fish passage barrier previously described ("Re: Fish in Littles Creek" email reply from Kathryn Lynch, City of Seattle, Public Utilities). Based on this criteria, Streams A and B are rated as Type III streams. Type III streams are required to have a standard buffer width of 65 feet and a minimum buffer width of 35 feet [SMC 20.80.470(B)].

The standard buffer may be reduced to the minimum buffer through enhancement. Enhancement of a stream buffer in a non fish-bearing stream would include installation of habitat structures such as nesting structures, snags, logs, and native vegetation. Further enhancement can be achieved through creation of a surface channel where a stream was previously underground, in a culvert or pipe [SMC 20.80.470(C)].

Buffer averaging may be applied provided the structure and function of the averaged buffer is equal or greater than the standard buffer, the total area of the buffer is not reduced, and no portion of the buffer is reduced beyond 25 percent or less than the minimum buffer (35 feet). Additionally, a habitat survey shall be required that identifies and prioritizes highly functioning habitat areas [SMC 20.80.470(F)].

State and Federal Regulations

Wetlands and streams are also regulated by the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act. Any filling of Waters of the State, including wetlands (except isolated wetlands), would require notification and permits from the Corps. Wetland A would not be considered isolated, due to its connection to Littles Creek. A formal isolated status inquiry can be requested from the Corps through the Jurisdictional Determination process. Federally permitted actions that could affect endangered species (i.e. salmon or bull trout) may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology.

In general, neither the Corps nor Ecology regulates wetland buffers, unless direct impacts are proposed. When direct impacts are proposed, mitigated wetlands may be required to employ buffers based on Corps and Ecology joint regulatory guidance.

Please note that the findings of this letter, including wetland classification and resulting buffer width predictions, are subject to the verification and agreement of local, state and/or federal regulatory authorities.

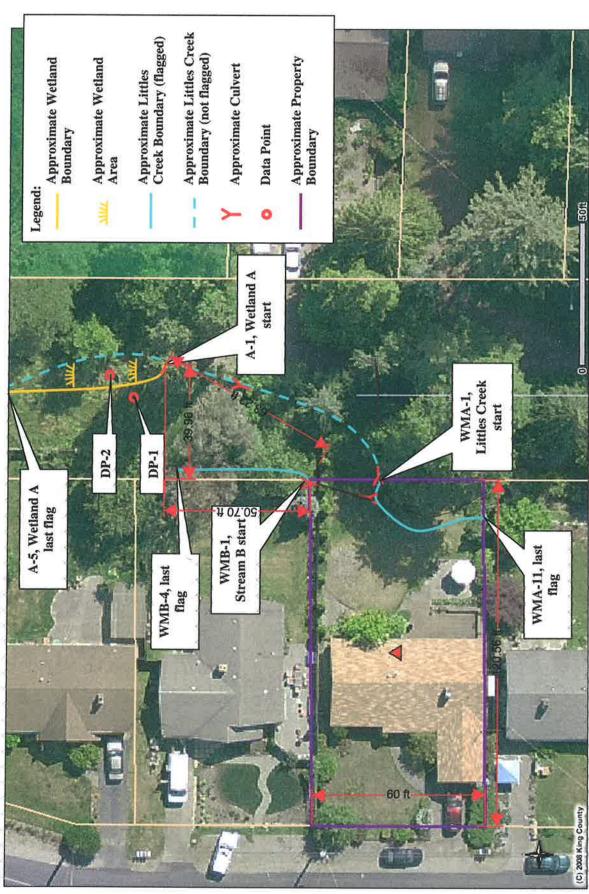
Please call if you have any questions or if we can provide you with any additional information.

Sincerely,

Ryan Kahlo Ecologist

RKIL

Enclosures



Wetland and Stream Delineation Sketch 14612 9th Place NE, Shoreline, Washington Prepared for Neil Erickson, NLE Design May 6, 2009



Area has not been surveyed. All locations are approximate and

Note:

not to scale.

750 Sixth Street South | Kirkland | WA 98033 p 425.822.5242 f 425.827.8136



WE : ∠AND DETERMINATION DATA FORM Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP-1

750 Sixth Street South Kirkland, Washington 98033 (425) 822-5242 watershedco.com

Total % Cover of Multiply by	Project Site: Applicant/Owner: Investigator: Sect., Township, Range Landform (hillslope, terrace, Subregion (LRR) A Soil Map Unit Name Not Are climatic/hydrologic condit Are "Normal Circumstances" Are Vegetation , Soil, , Are Vegetation , Soil, , Soil, , Are Vegetation	t Available tions on the site typic present on the site? or Hydrology ☐ signi or Hydrology ☐ natur	N R5E Lat al for this time of ye iicantly disturbed? ally problematic?	Slope (%) 47.73469 ar? Yes ppling point loc	No No No cations, trans	(If no, exp	g Point: nty: ef (concave -122.3 NWI cli lain in rem I, explain a	assification narks.) any answers i	ne) nor Datum none		
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Total % Cover of Multiply by Solution Solution	1. Rubus armeniacus	s	60	Yes	FACU	Prevale	nce Inde	x Workshe	et		-
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							Sampling P	oint - DP-1
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inches)	Color (moist)	%	Color (moist)	%	Type	Loc2	Texture	Remarks
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HYDROLOGY	
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Field Observations Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Yes Mo Depth (in): No Depth (in): No Depth (in):	Wetland Hydrology Present? Yes No No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection	ons), if available:
Remarks;	
Remarks:	

Depth (inches): _ Remarks:



WEILAND DETERMINATION DATA FORM Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP-2	

750 Sixth Street South Kirkland, Washington 98033 (425) 822-5242 watershedco.com

Applicant/Owner: Investigator: Sect., Township, Range Landform (hillslope, terrace, et Subregion (LRR) A Soil Map Unit Name Not A Are climatic/hydrologic condition Are "Normal Circumstances" p Are Vegetation □, Soil, □, or Are Vegetation □, Soil, □, or	Available ons on the site typical for resent on the site? Hydrology significant Hydrology naturally p	R5E Lat this time of yea ly disturbed? problematic?	Slope (%) 47.73469 r? X Yes Yes	□ No No	(If no, exp	y Point: nty: f (concave -122.3 NWI clain in rem	arks.) ny answers in Re	none n FOA		
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3.						mber of Do	V, or FAC:			(A)
4.						Across All		5		(B)
Sapling/Shrub Stratum (Plot	- size 3m diam.)		= Total Cover			of Dominar DBL, FACV	nt Species V, or FAC:	100		(A/B)
Rubus armeniacus		30	Yes	FACU	Prevale		x Worksheet			
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5.					FAC spec			x 3 =		
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10.						Problem	atic Hydrophytic \	/egetation * (explain)
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SOIL Sampling Point - DP-2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features (inches) Color (moist) Color (moist) Type' Texture Remarks 0-14 10YR 2/1 100 organic loam 100 ²Loc: PL=Pore Lining, M=Matrix ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3 Histosol (A1) Sandy Redox (S5) 2cm Muck (A10) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Other (explain in remarks) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of hydrophytic vegetation and wetland hydrology must Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) be present, unless disturbed or problematic Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Laver (if present): Yes No Hydric soil present? Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply); Secondary Indicators (2 or more required): Surface water (A1) Sparsely Vegetated Concave Surface (B8) Water-Stained Leaves (B9) (MLRA 1, 2, 4A & 4B) Drainage Patterns (B10) High Water Table (A2) Water-Stained Leaves (except MLRA 1, 2, 4A & 4B) (B9) Saturation (A3) Dry-Season Water Table (C2) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Shallow Aquitard (D3) FAC-Neutral Test (D5) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Raised Ant Mounds (D6) (LRR A) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks Inundation Visible on Aerial Other (explain in remarks) Imagery (B7)

Field Observations
Surface Water Present?

Water Table Present?

(includes capillary fringe)

Saturation Present?

Remarks:

Yes

Yes

Yes

 \boxtimes

No

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

☐ No

* Small, narrow drainage located approximately 8" to east.

Depth (in):

Depth (in):

Depth (in):

12

surface

Wetland Hydrology Present?

No